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PROCEEDINGS OF THE PARIS ANTHROPOLOGICAL
SOCIETY.*

M. BROCA offers some additional observations on plaster casts and on the errors to which the subsequent dilatation gives rise. He took this opportunity of rectifying the calculation respecting the capacity of Schiller's cranium. From the measurement of the plaster cast, he was led to fix the internal capacity of the cranium at between 1856 and 2150 c.c.; but as every diameter had probably increased two millimetres, the above calculation was too high, and the internal capacity must be reduced to from 1802 to 2072 c.c. The cranium of Schiller would be, even after this reduction, one of the largest ever measured.

Statistics of Greenland.—M. Boudin read a communication he had received from M. Etzel, who had published at Stuttgard, in 1860, a work entitled, *Groenland Geographisch und Statistisch Beschrieben aus Dänischer Quellschriften* (Greenland Geographically and Statistically described after Danish Documents).

According to the last census, taken on the first of October, 1855, the population of Greenland amounted to 9644 natives and 248 Europeans. The increase of the native population since 1820 is indicated by the following table:—

1820	6,286 inhabitants	1840	7,877 inhabitants
1824	6,331 "	1845	8,501 "
1830	6,997 "	1850	9,185 "
1835	7,356 "	1855	9,644 "

Within a period of twenty years, namely from 1833 to 1853, in a population of 2,504 belonging to the parishes of Godthaab, Frederickshaab, and Julianchaab, the average mortality per month was:—

January	3·5 deaths	July	4·3 deaths
February	3·2 "	August	6·8 "
March	3·5 "	September	6·3 "
April	2·7 "	October	7·6 "
May	3·1 "	November	7·5 "
June	4·1 "	December	4·3 "

Respecting the causes of the deaths, M. Etzel enumerates them as follows in 4,770 cases:—

Died whilst engaged in seal hunting	415
Otherwise drowned	59
Frozen to death	8
Violent deaths	29
Died in consequence of being ill-treated	2

Accidents	37
Poisoned by eating seal-flesh.....	36
Disputes	5
Suffocated during sleep	16
Old age	384
Throat diseases	21
Phthisis	230
Hæmoptysis	84
Chest diseases	139
Pleurisy	471
Influenza.....	622
Typhus and typhoid fever	16
Whooping-cough	96
Dropsy.....	30
Gout and rheumatism	3
Diarrhœa.....	11
Stones in the bladder	2
Cancer.....	6
Suicide.....	3

About one hundred Danish labourers and seamen, says M. Elzel, marry native females. These marriages during a century have given rise to a pretty numerous race of cross-breeds of various degrees, so that it is not always easy to distinguish them from the natives. They have, nevertheless, generally a European physiognomy. The greater portion of them resemble Southern Europeans as regards the hair and the colour of the skin. Some hybrids have light hair and a fair complexion, and can scarcely be distinguished from Northern Europeans. Fine figures are occasionally seen among the males. Intellectually the Mongrels approach the natives. The Greenland women married to Danes never learn the language of their husbands, still less do their children learn it. It is stated that the descendants of Danish fathers are more cleanly and more submissive to their parents than the native children.

In reply to M. de Moussy, who wished to know whether M. Elzel makes mention of epidemic variola among the Greenlanders, M. Boudin said that M. Elzel simply stated that variola existed in Greenland.

Who are the Celts?—M. Broca, in proposing this question for discussion, said,—In several of the discussions the terms Celts and Celtic race very frequently occurred. But the numerous speakers used these expressions with such different acceptations that opinions nearly identical appeared contradictory and *vice versa* opinions perfectly opposed to each other appeared to coincide. For these reasons it appeared to him necessary in the interest of science to provoke discussion on the various acceptations of the term Celts, so that when a speaker made use of the term it might be known what kind of Celts he meant. Within historical times there existed a people called Celts,

who occupied that portion of Gaul which lies between the Garonne and the Seine, and who stopped for some years the progress of the legions of Julius Cæsar. Such as take the name of Celts in this historical acceptation say that the Celts were above the average height, and that they had dark hair and eyes. . . . These are the *Celts of history*. But Cæsar was not the only writer who spoke of Celts. Many writers, from Herodotus downwards, have spoken of the existence of such a people, but in a vague and contradictory manner. The country of the Celts they believed was somewhere in Central and Western Europe. Sometimes they placed it above the Pyrenees, or on the sources of the Danube, the banks of the Po, or even on the shores of the North Sea. . . . These are the *Celts of tradition*, a people who are found almost everywhere, and can be fixed nowhere. Again philology has established that the Gauls and the Belgian Celts spoke of not the same language, at least nearly allied languages, akin also to the languages of the British islands. This group of languages required a name, and they were all called *Celtic languages* even before it was known that they were of Asiatic origin. The language of the Gaulish Celts is that which is least known, only a few words having been preserved. The name of Celtic languages being now sanctioned by use, all the people who speak or have spoken these languages are now called Celts.

There yet remain the Celts of *Archæology* and the Celts of *Cranio-logy*. As regards the Celts of Archæology, he would distinguish those of archæology twenty years ago and of the present archæology. Twenty years ago all the monuments of Western Europe anterior to the Roman period were ascribed to the Celts, namely, the dolmens, the tumuli, the menhirs, the cromlechs, and all implements, whether of bone, stone, or metal; but the progress of archæology has proved that monuments twenty years ago reputed Celtic date from quite a different era, and that some of these had been raised by people who were ignorant of the use of metals. These were considered by archæologists as the primitive inhabitants of Europe, and the use of bronze was supposed to have been introduced by more civised peoples. As a name must be given to these emigrants, they have been called Celts, inasmuch as the languages called Celtic are the most ancient Indo-European languages. The prehistoric period formerly called Celtic had thus been subdivided into two distinct epochs: the Celtic period commencing with the bronze age, and the pre-Celtic period corresponding to the stone age. There remain further the Celts of Craniology.

The illustrious Retzius, by comparing the crania of the stone period with those of the bronze age, found that in the region of the Baltic the former were brachycephalic and the latter dolichocephalic, whence he

inferred that the pre-Celtic populations were, without exception, brachycephalic, and that dolichocephaly had been introduced in this part of the globe by the first Indo-European conquerors, that is to say, by a people whom, according to their language and their archæology, he designated Celts, among whom he included all the populations of North Central and Western Europe with dolichocephalic crania, such, at least, as existed prior to the arrival of the Teutonic and Germanic races. Dr. Thurnam, on the other hand, gives as the result of his archæological researches that in Great Britain all the monuments of the bronze period had been constructed by a brachycephalic people. Thus whilst the Celts of Retzius are dolichocephalic those of Thurnam are brachycephalic. The denomination Celts has thus received a variety of contradictory acceptances. The Celts of history are the peoples of the central confederation of the Gauls.

The Celts of philology occupy a much more extended area, as in them are included all peoples who spoke or still speak the so-called Celtic languages.

The Celts of archæology are the people who inaugurated the bronze period in Europe. And finally the Celts of craniology have, according to Retzius, introduced dolichocephaly among the brachycephalic autochthons of Europe, whilst, according to Thurnam, they introduced brachycephaly among the dolichocephaly of Great Britain.

All this shows the necessity of examining and discussing the following questions :—

1. Who are the ancient Celts, and in what part of Europe have these people, whose language and knowledge are unquestionably derived from Asia, first appeared under the name of Celts?

2. Is any proof existent that any people bearing this name have ever occupied or invaded Denmark, the Scandinavian peninsula, and the British Islands?

3. What are the physical characters of the ancient Celts? Were they tall or short, brown or fair, brachycephalic or dolichocephalic?

The President announced that these questions would be discussed at some future meeting.

Human Hair as a race character. By M. Bonté. This paper was, in point of fact, a critical analysis of M. Pruner-Bey's treatise on the same subject, which has already appeared in the *Anthropological Review*. We extract a few of the introductory remarks, and the conclusions arrived at by the author; hitherto, observed M. Bonté, hair had not been supposed to possess a specific character, by the aid of which, we might, in an irrefragable manner, determine race.

It was known that the hair of the Negro is elliptic, that of the Mongol round, and that of the Aryan, more or less oval. It was

known that in some races the *pulp* is more or less absent ; in short, the hair was only considered as possessing a specific character for the determination of different original stocks.

So the question stood in 1863, when appeared the treatise of M. Pruner-Bey inserted in the memoirs, and in which he lays down the following principle :—“A single hair, when it presents the average form, characteristic of the race, may enable us to determine it.” But soon flinching from so bold an assertion, he added :—“Without pretending to such a degree of certainty, it is nevertheless indubitable that the hair of the individual bears the stamp of his origin.”

It is this conclusion which M. Bonté had tried to verify, and he regretted to say that he was far from arriving at the same results. After examining in detail the various propositions laid down by M. Pruner-Bey, M. Bonté concluded in the following terms :—

We are indebted to our colleague for the patience with which he has analysed and measured the hair of different races, but such as have read his memoir carefully, can only come to the following conclusions :—

1. The section of the hair of any race, or of any individual, is far from bearing the stamp of his origin, since, even according to M. Pruner-Bey, we find in the same race, and frequently upon the same head, different forms ; and also in the section of the hair of very different races, the most perfect similarity. If hair be any character, it is only so as regards the determination of what we call *stocks* : the hair of the Negro, the Mongol, and of the whole race, differ unquestionably.

2. The question is still in the condition in which it was left by Browne.

3. It appears to be impossible to lay down principles so absolute as those formulated by M. Pruner-Bey from observations, confined only to a few subjects. In fact, in 16 races out of 37, these observations refer only to one head of hair, and in 12 to two heads of hair.

Science is encumbered with many errors, because it adapts facts reposing upon slender foundations. M. Bonté concludes by expressing the hope that the question would be further examined, as his only wish was, to elicit the truth and nothing but the truth.

M. Broca said that without constituting himself the defender of M. Pruner-Bey, whose absence he regretted, he could not help recognising the importance of the treatise which M. Bonté had subjected to such severe criticism. Before M. Pruner-Bey's time, the hair had been chiefly studied as regards length. Pruner-Bey studied the circumference, and by means of transverse sections, he discovered

many curious facts; the conclusions may perhaps be erroneous in some details, owing to the small number of individuals examined. But the contradictions pointed out by M. Bonté signify little. There exists in Anthropology no absolute character. Even the craniological characters are, despite their importance, not absolute. Among the most orthognathous races are found prognathous individuals, and we cannot expect to find a greater fixity in the characters drawn from the structure of the hair. But these characters possess, nevertheless, great importance, which is shown in the treatise of M. Pruner-Bey.

One great fact has been demonstrated by microscopic examination, namely—the elliptic form of the transverse section in the hair of the Negro, whence it results that frizzling is fundamentally and essentially different from curly hair, as seen in other races. This character is the more important, since Prichard, from some superficial microscopic examinations, asserted that the hair of the Negro resembled that of the European. By demonstrating that what was called the wool of the Negro, had not the structure of lamb's-wool, Prichard thought to have established the identity of the hair in all races. The researches of M. Pruner-Bey have rectified this error.

After a short discussion, the Meeting adjourned.

June 16, 1864. Dr. Gillebert d'Hericourt, on his return from Algeria, presented to the Society a Memoir, containing anthropological observations on 17 Kabyles, 6 Mozabites, 8 Town Arabs, 23 Tribe Arabs, 4 Kouringlis, 12 Negroes, 6 Jews of Algiers, and 2 Chinese. He brought with him 23 specimens of the hair of all these individuals, and a beautiful collection of drawings of tattooing, copied from nature. The Memoir contains also observations on the hair, eyes, colour of skin, stature, conformation of hands and feet, and on the degree of resistance to cold, possessed by the Arabs and Kabyles. Memoir remitted to a Committee, composed of MM. Anselme, Perier and Bertran.

M. Pruner-Bey announced the reception, from Commander Duhousset, of 40 specimens of hair of Kabyles.

M. Pruner-Bey replied at some length to the strictures of M. Bonté on his treatise on human hair as a race character; but as M. Pruner-Bey promised that he would shortly publish a second and more extended series of observations on the same subject, we pass it over for the present.

July 7, 1864. The Secretary-General, in announcing that by an imperial decree the Anthropological Society has been pronounced an establishment of public utility, said such a recognition is ordinarily only granted to institutions which have existed for many years. The exception made in our favour abundantly proves the utility of the work we have undertaken. The thanks of the Society are especially due for

the favour to the enlightened views of M. Duruy, minister of public instruction, who by his writings has rendered important services to the science of anthropology.

A New Process for Solidifying Friable Substances. By — STAHL. Paris, 1864.

M. Pruner-Bey called attention to the utility of M. Stahl's process in the preservation of ancient crania. He produced a bone of a fossil reindeer, broken asunder, one portion of which in its natural condition crumpled into dust, whilst the other saturated with M. Stahl's liquid acquired the hardness of recent bones.

Dr. Moreno Maiz, late surgeon in the Peruvian army, presented to the Society a perfect Peruvian mummy and other objects found in a *huaca* (grave) of the ancient inhabitants of the northern coast of Peru. The mummy is of the race denominated by MM. de Rivero and Tschudi, Chinchas. The territory formerly occupied by this race extended from the desert regions of Tumbes in the north to the sands of Atacama in the south, between the tenth and the fourteenth degrees south lat. The three vases sent with the mummy are called *huaqueros*.

The President recommended a careful examination of this mummy, for which purpose a committee was appointed.

Dr. John Thurnam (who was present at this meeting) offered to the Society a perfect cranium found in a long-barrow at Dinnington (West Riding of Yorkshire) of the stone period. This cranium is very dolichocephalic, as shown by the following dimensions:—

Diameter of antero-posterior maximum	205
„ transverse maximum	143
„ vertical maximum	144
„ frontal minimum	96
Total occipito-frontal curve, from the nasal suture to the posterior border of the occipital foramen	413
Transverse bi-auricular circumference	460
Horizontal circumference	561

The cephalic index is from 69-75. The internal capacity is enormous, amounting to 1818 centimeters cubes. This cranium presents a considerable development of the occipital region.

Is Religiousness a Human Character? M. Pruner-Bey made the following remarks on this question, which had been touched upon by M. Boudin in his paper on serpent-worship. If by religion we understand the relations in which man thinks that he stands to an invisible world and the attribution of supernatural powers to inorganic and organic bodies (demonology and idolatry) there can scarcely be said to exist any people altogether deprived of religion. And if religiousness be the faculty of conceiving or adopting any religion, then this faculty is inherent in human nature.

With regard to the inhabitants of Southern Africa, especially the Kaffirs and the Bechuanas, Livingstone loudly protests against the ideas spread by the Moslems on the absence of religion amongst these people; and M. Casalis, in his work on the Bassutos, a branch of the Bechuanas, gives a detailed account of the religious system of these nations. Nevertheless all travellers in these countries have been struck with the total absence of temples and places devoted to *public worship*. Moreover, which is better, to have none at all or a sanguinary worship? This protest does not, however, exclude another series of facts. There exist, no doubt, among human races living more or less in a state of nature, individuals, and probably whole tribes, in whom religious ideas are but little developed or are absent(?); just as amongst us there exist materialists and spiritualists. Still all this by no means invalidates the rule, and man in a savage state may, in his own fashion be as religious, if not more so, than civilised man.

Report by M. Alix on a memoir submitted to the Society entitled *Cavernes du Périgord, objets gravés et sculptés des temps préhistoriques dans l'Europe occidentale*.

This memoir, of which an analysis had been presented to the *Académie des Sciences* by M. Milne Edwards, has for its object to demonstrate the existence of man in Central France at a period when that part was inhabited by the reindeer and other extinct animals. All the localities which have been explored by MM. Lartet and Christy are situated in the *Arrondissement de Sarlat* (Dordogne).

The most important discoveries have been made in the grotto of Eyzie, and in deposits near the slopes at Langerie-Haute and Langerie-Basse.

After a detailed account of the objects found, such as flint implements worked in different fashions, weapons made of bones or antlers of the reindeer, teeth of the *Megaceros hibernicus*, finely engraved utensils, etc.—the report continues thus:—The facts we have enumerated relate to two separate questions, the one geological, the second anthropological. It belongs to geology to determine the age of the beds in which the objects were found. The anthropologist might infer from this the antiquity of the human race upon the globe.

The discoveries of MM. Lartet and Christy prove that people who knew not the use of metals inhabited our country contemporaneously with animals now extinct. The question as to the period when this population and this extinct fauna lived contemporaneously will only be solved when geologists are no longer divided in this respect.

Anthropology asks other questions. What was the nature of the people the contemporaries of extinct animals with respect to their intelligence? Were they essentially inferior to their successors, or were

they their equals, if not in knowledge, at least by their natural qualities? Does science force us to abandon the hypothesis of the primitive dignity of man, that hypothesis which inspired Milton when in his poetical enthusiasm he depicted Adam as the most perfect of men, and Eve as the fairest of women?

“So hand in hand they passed, the loveliest pair
That ever since in love’s embraces met;
Adam the goodliest man of men since born
His sons, the fairest of her daughters Eve.”

The researches of MM. Lartet and Christy show us people who manifested their intelligence by their designs, engravings, sculpture, who produced works of art and gave a regular form and a curve of a certain beauty even to common utensils. These people thus possessed a sense for the beautiful, so that M. Lartet says we find amongst them real artists, and the most civilised nations need not blush to acknowledge them as their ancestors.

In conclusion, science has, by the research of MM. Lartet and Christy, acquired the following three facts:—

1. Men have inhabited France contemporaneously with the reindeer.
2. They have lived at a period anterior to that of which the Greeks and Romans have written.
3. These men, whatever may have been the simplicity of their habits, have left behind them remarkable proofs of their intelligence.

Discussion on the Celts.—M. Girard de Rialle said, our honourable Secretary, M. Broca, has proposed the question, “Who are the Celts?” I reply, they are the first tribe of the Aryan stock, who arrived in Europe long before the Germans, the Pelasgi, and the Slavonians.

These first Aryans certainly did not call themselves Celts. Cæsar gives that denomination only to those confederate Gauls who were localised between the Seine and the Garonne, in a wooded country (the Celtic word is derived from the Gaelic *koille*, forest). But, right or wrong, the ancients denominated Celts all inhabitants of Western Europe.

Latterly all the peoples who spoke Gaëlo-Kimric languages—that is to say, the Gauls, the Belgians, the Britons, the Scotch, and the Irish—were called Celts; in the same way as the Bactrians, the Persians, the Medes, the Armenians, the Kurdes, etc., are said to belong to the Iranian race, from the name of a province *Iran*, which word signifies the earth properly so called. Again, the Greeks, the Italiots, the Eperotes, the Thracians, the Phrygians, the Ionians, are called the Pelasgian race, from the name of one tribe, the members of which called themselves Pelasgi.

The Celts are Aryans, there is no doubt about this—their languages

prove it. They consist of two groups, the Gaëls and the Kimris. The idioms of these two groups resemble each other so much, that they can only belong to peoples nearly allied. The Gaëls were the first who arrived in this part of Europe ; for the traditions, clear enough as regards the Kimris, are silent as regards the Gaëls. The Gaëls established themselves in Europe, in Gaul, England, and Ireland. The language of the Highlanders and the Irish is a purely Gaëlic dialect. These Aryans, no doubt, found in Europe an autochthonic race. Were these the people of the stone period? for the Gaëls belong to the bronze age. And this I prove by the Gaëlic language, in which are mentioned four metals, the names of which evidently belong to the primitive Aryan, though corrupted in the Celtic languages. The Celts knew *airain* (brass), the name of which was among the Germans and Celts afterwards given to iron (steel). *Airam*, *ayas* in Sanscrit, stands for *ADYAS*, itself a corruption of *ADAS* ; so that the knowledge of metals existed in Arya at an immeasurably remote period. *ADAS* stands for *A*, purative, and *DAS*, subdued (*dompté*) ; *äirain* (brass). *Ayas* is therefore the unsubdued, *i. e.* the metal hard *par excellence*, which we find again in Rome and Italy under the names *ais*, *aes* ; it corresponds with the Gothic *eisarn* (Aryan, *ADYASR'*). This Aryan word becomes in Gaëlic *IARUNN* ; whilst the Gothic *eisarn* becomes the German *eisern*, and the English *iron*.

Copper is in Gaëlic called *coiremor*, which reminds us of the Sanscrit *kamala*, which has the same signification. The interversion of syllables is frequent in our race, as well as the interchange of the soft liquid *l*, for the hard liquid *r*. This word, then, seems to be derived from the radical *KAM*, to love. *Coiremor* and *kamala* thus signify the loved, precious metal.

Finally, when we compare *AIRGIOD*, silver, in Gaëlic, with the Greek *Ἀργυρος*, the Latin *Argentum*, the Sanscrit *r'g'aton*, the Zend *erezata*, we can only derive them from the same radical *r'g*, "to glitter", and conclude that all the Aryans knew, before their separation, a white glittering metal—silver. We are likewise, as linguists, obliged to unite under a common radical the Gaëlic *oir* and the Latin *aurum*, to be convinced that the primitive Aryans possessed objects in gold.

[To be continued.]